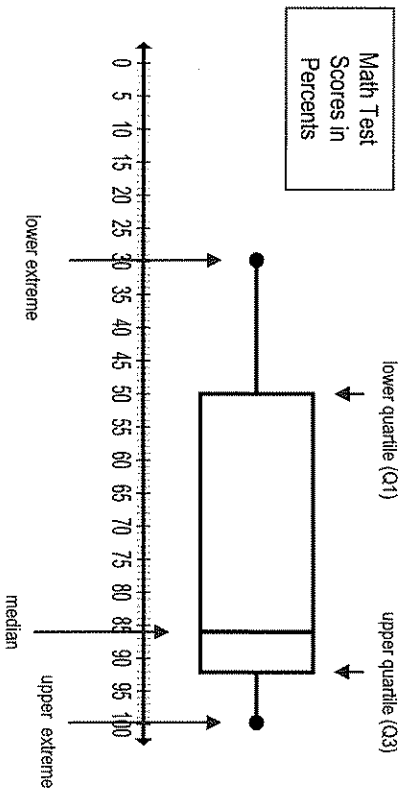


Box Plots (Box-and-Whisker Plots)	Features
 <p>The figure is a box plot titled "Math Test Scores in Percents". The horizontal axis is a number line labeled from 0 to 100 in increments of 5. The box plot shows the following data points: Lower extreme at 25, Lower quartile (Q1) at 40, Median at 60, Upper quartile (Q3) at 85, and Upper extreme at 95. Arrows point from labels to their respective parts of the plot.</p>	<p>Definition: The CCSS Glossary defines a box plot as a method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. The box shows the middle 50% of the data, and the extended "whiskers" show the remaining 50% of the data.</p> <p>Important Features: A box plot is formed from a number line. The graph can be thought of as a "5-Point Summary" of the data. It displays: 1) the median; 2) the lower quartile (Q1); 3) the upper quartile (Q3); 4) the lower extreme (minimum); and 5) the upper extreme (maximum).</p> <p>Advantages: This graph can be used for very large data sets because it gives a general idea of how the data is clustered together. Exact values of each data point are not given in a box plot. A further advantage is that additional box plots can be drawn above the same number line to compare two or more data sets.</p> <p>Common Misconceptions by Students: The most common misconception students have on box plots is they don't understand that each quartile represents 25% of the data. They also struggle with finding Q1 and Q3 and making the connection that Q1 is the median of the lower half of the data and Q3 is the median of the upper half of the data.</p>
Creating a Box Plot (Box-and-Whisker Plot)	
<ol style="list-style-type: none"> 1) Write the data in order from least to greatest. 2) Draw a horizontal number line that can show the data in equal intervals. 3) Find the median of the data set and mark it on the number line. 4) Find the median of the upper half of the data. This is called the upper quartile (Q3). Mark it on the number line. 5) Find the median of the lower half of the data. This is called the lower quartile (Q1). Mark it on the number line. 6) Mark the lower extreme (minimum) on the number line. 7) Mark the upper extreme (maximum) on the number line. 8) Draw a box between the lower quartile and the upper quartile. Draw a vertical line through the median to split the box. 9) Draw a "whisker" from the lower quartile to the lower extreme. 10) Draw a "whisker" from the upper quartile to the upper extreme. 	